IC 3-11-15

Chapter 15. Ballot Card and Electronic Voting Systems; Additional Standards and Procedures for Approving System Changes

IC 3-11-15-1

Applicability of chapter

Sec. 1. Except as otherwise provided, this chapter applies to any election in Indiana where voting is by means of a ballot card or electronic voting system.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-2

Applicability of performance and test standards and fees

Sec. 2. The performance and test standards and fees under this chapter apply to a voting system procured after March 25, 1992.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-3

Vendors; application to examine voting system

Sec. 3. A vendor may apply to the election division to examine a voting system and report on its accuracy, efficiency, and capacity.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-4

Application for certification; fee

Sec. 4. Each application for certification of a voting system shall be accompanied by a fee of one thousand five hundred dollars ($1,500).

As added by P.L.3-1997, SEC.332.

IC 3-11-15-5

Vendors; reimbursement to election division for cost of examination

Sec. 5. Each vendor shall reimburse the election division an amount equal to the total cost of examining the system.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-6

Approval of system dependent on payment of fees and expenses

Sec. 6. The commission shall not approve any system until the fee and the expenses incurred by the election division (or a competent person designated by the commission to act on behalf of the election division) in making the examination are paid by the person making the application.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-7

Applications; contents

Sec. 7. Each application must be in writing, on a form prescribed by the commission, and contain the following information:

(1) The name and address of the vendor submitting the application.
(2) The telephone number of the vendor.
(3) The type and model number of the submitted voting system.
(4) A description of the voting system and its capabilities, including:
(A) photographs;
(B) engineering drawings; and
(C) technical documentation.
(5) An agreement to pay for the total costs of the examination.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-8
Applications; length of validity

Sec. 8. An application under this chapter is valid for one (1) year after the date that the application is filed with the election division and for any additional time that the commission considers necessary to act upon the application.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-9
Prompt response to inquiries by applicant required

Sec. 9. An applicant must vigorously and continuously seek approval of an application by promptly responding to inquiries from the commission and the election division. The commission may, following a hearing under IC 4-21.5, dismiss an application if the commission determines that the applicant has not complied with this requirement.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-10
Vendors; reapplication for reexamination

Sec. 10. A vendor may reapply to the election division for reexamination of a voting system if the commission determines that an improvement or change to a voting system requires a reexamination of that system.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-11
Vendors; reimbursement to election division for cost of reexamination

Sec. 11. Each vendor shall reimburse the election division an amount equal to the cost of reexamining the system. The commission shall not give reapproval of any system until the expenses incurred by the election division (or a competent person designated by the commission to act on behalf of the election division) in making the reexamination are paid by the person making the application.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-12
Applications; form

Sec. 12. Each application under this chapter must be in writing on a form prescribed by the commission and must comply with the requirements of this chapter.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-13
Voting system; standards

Sec. 13. (a) Except as provided in this chapter, to be approved for use in Indiana, a voting system shall meet the standards established by the Performance and Test Standards for Punchcard, Marksense, and Direct Recording Electronic Voting Systems issued by the Federal Election Commission on January 25, 1990.

(b) The commission may adopt rules under IC 4-22-2 to require a voting system to meet standards more recent than standards described in subsection (a). If the commission adopts rules under this subsection, a voting system must meet the standards described in the rules instead of the standards described in subsection (a).
As added by P.L.3-1997, SEC.332. Amended by P.L.126-2002, SEC.74.

IC 3-11-15-13.5
Use of voting systems that permit voter with disabilities to cast private ballot

Sec. 13.5. (a) This section does not apply to the purchase, lease, or lease-purchase of additional or replacement components of a voting system in use in a county before January 1, 2005.

(b) The commission shall determine whether a voting system provides a practical and effective means for voters with disabilities to cast ballots in private.

(c) If the commission determines that any voting system meets the criteria described in subsection (b), a county may not purchase, lease, or lease-purchase any other voting system that does not meet the criteria described in subsection (b).
As added by P.L.126-2002, SEC.75.

IC 3-11-15-13.7
Requirements of voting systems to indicate overvotes and undervotes

Effective 1-1-2003.

Sec. 13.7. (a) If a voting system has any of the following functions, the functions must be operable in the voting system's equipment actually in use in a precinct:

(1) The voting system can demonstrate to the voter that the voter has cast votes for too many candidates for an office.

(2) The voting system can demonstrate to the voter that the voter has cast votes both in favor of and in opposition to a public question.

(b) Except as provided in subsection (c), a voting system described in subsection (a) must be able to inform the voter how the voter may correct errors on the voter's ballot.

(c) A voting system is not required to provide the information required by subsection (b) if the information is provided in writing

conspicuously on or near the components of the voting system where the voter casts the voter's votes.
As added by P.L.126-2002, SEC.76.

IC 3-11-15-14
Ballot counting devices and equipment; verification

Sec. 14. In ballot card voting systems, each precinct ballot counting device, and all central counting equipment, must contain provisions for verifying:

(1) its proper preparation for an election; and

(2) that both the hardware and the software are functioning correctly.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-15
Ballot counting devices and equipment; tests and diagnostic procedures

Sec. 15. The tests and diagnostic procedures described in section 14 of this chapter:

(1) may be executed manually or automatically; and

(2) must allow for operator intervention to validate the proper execution of individually selected equipment functions.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-16
Electronic voting system; verification

Sec. 16. Each electronic voting system or vote recording and data processing device shall contain hardware and software provisions for verifying:

(1) its proper preparation for an election; and

(2) that both the hardware and the software are functioning correctly.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-17
Electronic voting system; tests and diagnostic procedures

Sec. 17. The tests and diagnostic procedures described in section 16 of this chapter:

(1) may be carried out manually or automatically; and

(2) must allow for operator intervention to validate the proper execution of individually selected equipment functions.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-18
Repealed

(*Repealed by P.L.26-2000, SEC.46.)*

IC 3-11-15-19
Repealed

(*Repealed by P.L.26-2000, SEC.46.)*

IC 3-11-15-20

Voting system; accuracy

Sec. 20. A voting system must be able to record accurately each vote and be able to produce an accurate report of all votes cast. The inclusion of control logic and data processing methods incorporating parity and check-sums (or equivalent error detection and correction methods) must demonstrate that the system has been designed for accuracy.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-21

Voting system; software

Sec. 21. Software used in a voting system must monitor the overall quality of data read-write and transfer quality status, checking the number and types of errors that occur in any of the relevant operations on data and how they were corrected.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-22

Ballot card voting system; verification and accuracy

Sec. 22. Ballot card voting systems must rely on the retention of ballots as a redundant means of verifying or auditing election results. As a means of assuring accuracy in electronic voting systems, the unit must incorporate multiple memories in the machine itself and in its programmable memory devices.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-23

Electronic voting system; preservation of electronic images of ballots

Sec. 23. To attain a measure of integrity over the process, the electronic voting systems must also maintain an image of each ballot that is cast, such that records of individual ballots are maintained by a subsystem independent and distinct from the main vote detection, interpretation, processing, and reporting path. The electronic images of each ballot must protect the integrity of the data and the anonymity of each voter, for example, by means of storage location scrambling. The ballot image records may be either machine-readable or manually transcribed, or both, at the discretion of the vendor.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-24

Voting system; status and degree of operability

Sec. 24. Ballot card voting and electronic voting systems must include built-in test, measurement, and diagnostic software, and hardware for detecting and reporting the system's status and degree of operability.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-25

Voting system; recording and reporting capabilities

Sec. 25. A voting system must include capabilities of recording and reporting the date and time of normal and abnormal events and of maintaining a permanent record of audit information that cannot be turned off. A voting system must include provisions to detect and record significant events, such as casting a ballot, error conditions that cannot be disposed of by the system itself, or time-dependent or programmed events that occur without the intervention of the voter or a polling place operator.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-26

Ballot counting software

Sec. 26. The ballot counting software must be designed in a modular fashion and not be self-modifying. Modular programs must consist of code written in relatively small and easily identifiable sections, with each unit having a single entry point and a single exit point. Each module must have a specific function that can be tested and verified more or less independently of the remainder of the code. Appendix E of the Performance and Test Standards for Punchcard, Marksense, and Direct Recording contains numerical guidelines for program modules.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-27

Repealed

(*Repealed by P.L.26-2000, SEC.46.)*

IC 3-11-15-28

Repealed

(*Repealed by P.L.26-2000, SEC.46.)*

IC 3-11-15-29

Repealed

(*Repealed by P.L.26-2000, SEC.46.)*

IC 3-11-15-30

Repealed

(*Repealed by P.L.26-2000, SEC.46.)*

IC 3-11-15-31

Repealed

(*Repealed by P.L.26-2000, SEC.46.)*

IC 3-11-15-32

Compliance with other preferred coding practices and software characteristics

Sec. 32. In considering the compliance of a voting system with this chapter, the commission may determine whether the system conforms with other preferred coding practices and software characteristics set forth in Appendix E of the Performance and Test Standards for

Punchcard, Marksense, and Direct Recording Electronic Voting Systems.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-33
Real-time monitoring of system status and data quality

Sec. 33. The vendor shall provide for the real-time monitoring of system status and data quality. The election division (or the competent person designated by the commission to act on behalf of the election division) shall determine methods of assessment with the advice of a test authority. Implementation options include the following:

(1) Hardware monitoring of redundant processing functions which are carried out in parallel or serially.

(2) Statistical assessment and measures of system operation.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-34
Quality assessment

Sec. 34. Measurement of the relative frequency of entry to program units and the frequency of exception conditions must be included as part of the quality assessment.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-35
Repealed

(*Repealed by P.L.176-1999, SEC.134.)*

IC 3-11-15-36
Errors in operations; corrections

Sec. 36. Software used in all systems must monitor the overall quality of data read-write and transfer quality status, checking the number and types of errors that occur in any of the relevant operations on data and how the errors were corrected. If the total number of corrected errors exceeds a predetermined threshold, or if errors on any one (1) type occur repeatedly, then the operation of the affected device must be suspended until the condition generating the errors has been corrected. Any uncorrectable error must result in an immediate halt and provide an appropriate message to the voter or polling place official.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-37
Retention of ballots for verification of election results

Sec. 37. Ballot card voting systems must rely on the retention of ballots as a redundant means of verifying election results. As a means of assuring accuracy in electronic voting systems, the unit must incorporate multiple memories in the machine itself and in the unit's programmable memory devices. To attain a measure of integrity over the process, an electronic voting system must also maintain images of each ballot that is cast so that records of individual ballots are maintained by a subsystem independent and distinct from the main vote

detection, diagnostic, processing, and reporting path.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-38
Stored images of ballots

Sec. 38. The stored images of each ballot must protect the integrity of the data and the anonymity of each voter by such means as storage location scrambling. The ballot image records may be either machine readable or manually transcribed, or both, at the discretion of the vendor.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-39
Firmware instructions; undervoting permitted

Sec. 39. The electronic voting system firmware instructions must contain necessary logical instructions to determine correct recording of each and every candidate or public question selection made by the voter to the appropriate memory registers and tables. In the case of a partially voted ballot, deliberate undervoting by a voter must be permitted. This undervoting must be validated by machine determination that particular candidate or public question selections have not been made. In cases where a selected candidate or vote on a public question is not recording correctly upon casting of the ballot, the electronic voting system equipment must generate an error signal and automatically stop operation of the machine until the problem is resolved.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-40
Reconciliation of sum of selections and undervotes

Sec. 40. After every ballot is cast, a reconciliation of the sum of selections and undervotes must occur. The undervotes may not be generated as a default but must be generated as the result of scanning the ballot as the ballot is cast.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-41
Status messages

Sec. 41. Status messages must become part of the real-time audit record. Latitude in software design is necessary so that consideration can be given to various user processing and reporting needs. The user shall require status and information messages to be displayed and reported in real-time.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-42
Status messages; display

Sec. 42. Depending on the critical nature of the message, and the particular jurisdiction's needs, status messages shall preferably be displayed and reported by suitable, unambiguous indicators or English

language text. Noncritical status messages may be displayed if the message does not require operator intervention by means of numerical codes, for subsequent interpretation and reporting as ambiguous text.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-43
Audit records

Sec. 43. The audit record provisions in this chapter are essential to the complete recording of election operations and reporting of the vote tally. This list of audit records must reflect all of the idiosyncrasies of a system.
As added by P.L.3-1997, SEC.332.

IC 3-11-15-44
In-process audit records; contents

Sec. 44. In-process audit records consist of data documenting precinct and central count system operation during diagnostic routines and the casting and tallying of ballots. At a minimum, the in-process audit records for all systems must contain the following items, except as otherwise noted:

(1) Machine generated error and exception messages to ensure that successful recovery has been accomplished. Examples include the following:

(A) The source and disposition of system interrupts resulting in entry into exception handling routines.

(B) All messages generated by exception handlers.

(C) The identification code and number of occurrences for each hardware and software error or failure.

(D) Notification of system log-in or access errors, file access errors, and physical violations of security as they occur, and a summary record of these events after processing.

(E) For ballot card voting systems, an event log of any ballot-related exceptions, such as the following:

(i) Quantity of ballots that are not processable.

(ii) Quantity of ballots requiring special handling.

(iii) In a central count environment, quantity identification number of aborted precincts.

(F) Other exceptional events such as power failures, failure of critical hardware components, data transmission errors, or other types of operating anomalies.

(2) Critical system status messages other than informational messages displayed by the system during the course of normal operations. These items include the following:

(A) Diagnostic and status messages upon startup.

(B) The "zero totals" check conducted before opening the polling place or counting a precinct centrally.

(C) For ballot card voting systems, the initiation or termination of card reader and communications equipment operations.

(D) For electronic voting system machines, the event (and time, if available) of enabling/casting each ballot that is each voter's transaction as an event. This data can be compared with

the public counter for reconciliation purposes.

(3) Status messages that are generated by the machine's data quality monitor or by software and hardware condition monitors. For example, a cumulative or summary record of data read-write-verify, parity, or check-sum errors and retries is required. The intent is to gauge the accuracy of the ballot data and adequacy of the system in monitoring and detecting system processing errors.

(4) System generated log of all normal process activity and system events that require operator intervention so that each operator access can be monitored and access sequence can be constructed.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-45

General features and capabilities of access policy; disclosure

Sec. 45. The vendor shall disclose the general features and capabilities of the access policy. The generic capabilities should include the following:

(1) Software access controls.

(2) Hardware access controls.

(3) Effective password management.

(4) The protection abilities of a particular operating system.

(5) The general characteristics of supervisory access privileges.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-46

Access policies defined by using jurisdiction

Sec. 46. The using jurisdiction in charge of voting system operations is responsible for defining the specific access policies applying to each election and for defining any variations of these resulting from use of the system in more than one (1) environment.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-47

Access control policy; limitations on access

Sec. 47. The access control policy must identify all persons to whom access is granted and the specific functions and data to which each holds authorized access. If an authorization is limited to a specific time, time interval, or phase of the voting or counting operations, this limitation must also be specified.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-48

Access control policy; requirements

Sec. 48. The access control policy:

(1) may not affect the ability of a voter to record votes and submit a ballot; and

(2) must preclude voter access to all other physical facilities of the vote-counting processes.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-49
Marketing of voting systems by vendors

Sec. 49. (a) This section applies to a voting system approved by the commission after July 1, 1997.

(b) Before a vendor markets a voting system in Indiana, the vendor shall provide for the escrow of system software and source codes in accordance with an agreement between the vendor and the election division.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-50
Reporting and approval of modifications; procedures

Sec. 50. Although the employment of a testing authority in conjunction with the standards established by this chapter should obviate the need for further modifications to certified voting systems, the complexity of the programming task and the difficulty in maintaining absolutely error-free voting system software requires the establishment of a procedure for the reporting and approval of modifications to approved voting systems.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-51
Improvements or changes to voting system

Sec. 51. (a) This section applies to any voting system change.

(b) To implement the requirements imposed under IC 3-11-7-15 and IC 3-11-7.5-5 for a vendor or county election board to report a proposed improvement or change to a voting system to the commission and for the commission to determine if the improvement or change may be implemented, the election division shall review and recommend whether the commission should approve proposed software or hardware change introduced after the system has completed qualification in accordance with this chapter.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-52
Emergency voting system change

Sec. 52. (a) This section applies only to an emergency voting system change.

(b) A vendor or county election official may make an emergency voting system change in accordance with this subsection. The circuit court clerk or an individual designated by the clerk or otherwise responsible under state law for administering the election within the county shall file a written request for approval of the change with the election division. The election division (or a competent person designated by the commission to act for the election division) shall review the proposed change and respond as soon as possible.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-53
Emergency voting system change; approval

Sec. 53. The election division may approve an emergency voting system change requested on behalf of the commission. However, an approval is void unless the vendor or the vendor's agent files a written memorandum with the election division no later than seventy-two (72) hours after the change is made setting forth the following:

(1) The reasons for the change.

(2) The date and time that the change was made.

(3) A description of the files that have been changed, including directory information such as the file name and the size of the file (in bytes) both before and after the change is made.

(4) A brief summary of the changes made in each of the files.

(5) The name and title of each technician making the change.

(6) If the technician is acting for a vendor or other company, the name of the company and the telephone number and facsimile machine number of the company.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-54

Software or source code changes

Sec. 54. Notwithstanding any other provision of this chapter, the software or source code of a voting system may not be changed while an election is being conducted or during the canvassing of the election's results.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-55

Change in voting system; inclusion in subsequent software submitted for approval

Sec. 55. The procedures set forth in this chapter are not intended to permit the circumvention of the normal evolutionary process of software development. Any changes to a voting system, whether previously approved by the commission or not, must be included in any subsequent version of a voting system's software submitted for the commission's approval. The procedures set forth in section 53 of this chapter are designed to preclude testing or experimenting with innovations in election software and systems as a part of the actual election process in Indiana.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-56

Emergency voting system change; implementation in other counties

Sec. 56. If a county election official or a vendor makes an emergency voting system change, the vendor shall make this change in the voting systems used in all counties not later than the recertification of this system by the commission unless the vendor demonstrates to the commission that the change is impractical or unnecessary in the voting systems used in other counties.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-57

Request for proposed change in voting system

Sec. 57. (a) This section applies to a proposed change in a voting system that is not an emergency voting system change.

(b) The vendor or a county election board shall file a written request for the proposed change with the election division under IC 3-11-7-15 or IC 3-11-7.5-5. The request must include the following information:

(1) The reasons for the proposed change.

(2) The schedule for making the proposed change, if approved.

(3) A description of the files that will be changed, including directory information such as the file name and the size of the file (in bytes) both before and after the change is made.

(4) A brief summary of the changes to be made in each of the files.

(5) The name and title of each technician who will make the change.

(6) If the technician is acting for a vendor or other company, the name of the company, and the telephone number and facsimile machine number of the company.

(c) The commission may approve the proposed change after:

(1) the election division (or a competent person designated by the commission to act on behalf of the election division) reports to the commission that the vendor has tested the proposed changes on a simulated (mockup) version of the approved system; and

(2) the vendor supplies the results of this test and makes a similar demonstration to the election division.

As added by P.L.3-1997, SEC.332.

IC 3-11-15-58

Additional testing due to proposed change in voting system

Sec. 58. (a) This section applies to any voting system change.

(b) The election division will advise the commission whether the proposed change requires additional tests for system requalification. For software changes, the commission may require full software qualification and system-level tests.

As added by P.L.3-1997, SEC.332.